COMPOSITION AS AN ADDITIVE TO CREATE A CLEAR STABLE MICROEMULSION WITH A COMBUSTIBLE LIQUID FUEL TO IMPROVE COMBUSTION

ABSTRACT OF THE DISCLOSURE

The present invention relates to an additive composition for a combustible fuel to utilize readily available and renewable resources and to produce improved combustion and reduced smoke and particulate production of the combusted fuel, which additive composition comprises:

a. one or more water-soluble alcohols selected from the group consisting of alcohols having from between about 1 and 6 carbon atoms, in an anhydrous state or as a 0.5-36% aqueous solution, and one or more of the following:

b. one or more alcohols selected from the group consisting of clear, liquid saturated or unsaturated, straight- or branched-chain alcohols having from between about 6 and 18 carbon atoms;

c. one or more alcohols selected from the group consisting of ethoxylated straight- or branched- long-chain alcohols having between about 12 and 18 carbon atoms, where the ethylene oxide add-on is less than 5 moles;

d. a fatty acid of the structure R-(C=O)-OH, wherein R is selected from alkyl, alkenyl or alkynyl having from about 10 to 24 carbon atoms, with

e. a source of nitrogen in an anhydrous state or as an aqueous solution selected from the group consisting of the ammonia, hydrazine, alkyl hydrazine, dialkyl hydrazine, urea, ethanolamine,, monoalkyl ethanolamine, dialkyl ethanolamine wherein alkyl is independently selected from methyl, ethyl, n-propyl or isopropyl wherein trialkylamines are excluded;

wherein components a to e when combined with mixing with said combustible fuel form a clear stable microemulsion having a viscosity similar to a liquid fossil fuel; and

wherein said additive composition excludes glycerine, polyethylene, polyoxyethylene, polyoxypropylenes, aromatic organic compounds, sulfur, sulfur compounds, metals, metal compounds, compounds of phenanthrene. Specifically, compositions of ethanol, methanol, iso-propanol, octanol, 2-ethyl-hexanol, linoleic

acid, oleic acid, ammonia, and water are preferred to produce minimum smoke, particulates, and noxious gases upon combustion.